

New Tools to Reduce Seabird Bycatch in Puget Sound Salmon Drift Gillnets

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Abstract

We compared seabird entanglement and salmon catch rates in modified gillnets across times of day in the 1996 North Puget Sound non-treaty sockeye fishery. Our objective was to develop fishing gear and techniques that reduce seabird bycatch in salmon drift gillnets without significantly reducing salmon catch. Modified gear incorporated either visual or acoustic alerts (pingers) into traditional nylon monofilament nets. Time-of-day treatments included sunrise, sunset, and daytime fishing. Seabird entanglement and salmon catch rates varied significantly among gear types and time of day categories, but the patterns of variation were species-specific. Results identified three tools to reduce seabird bycatch in Puget Sound salmon drift gillnet fisheries without reducing fishing catch rates: abundance based or ecosystem management, modified gear, and time of day. Fishing 20-mesh visual barrier nets at times of high fish abundance during openings that include either daytime-and-dusk or daylight-only fishing together have the potential to reduce seabird bycatch by up to 70%–75% in years similar to 1996. These three tools were incorporated into management regulations for the non-treaty fishery by the Washington Fish and Wildlife with the endorsement of fishery leaders.

Whale Watching in the Boundary Straits: Growth Trends and Cooperative Self-Management

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Abstract

Whale watching in the Boundary Straits of Washington State and British Columbia has grown at an exponential rate over the last decade, and in recent years has accelerated its growth beyond levels of whale watching found anywhere else in the world. Management of this industry has not yet been undertaken through traditional governmental authority, but has been left to non-governmental organizations that have applied intensive educational efforts relying on cooperative self-management.

The retail sale of orca watching in this region began in the late 1970s, but did not gross more than \$10,000 annually until 1985. By 1991, ticket sales broke \$1 million, and by the end of the 1997 season they approached \$5.7 million, with 81 commercial boats from both sides of the border carrying more than 113,000 passengers. Data were collected through questionnaires distributed to commercial operators in 1988, 1991, and 1993, and through empirical observations collected by educational patrol boats that have monitored whale-watching activities since 1993.

Educational patrol boats that promote self-regulation, an industry-based international commercial operators association, and annual public workshops have led to the development of cooperative self-imposed regulations by the majority of private and commercial vessels that engage in whale watching in the boundary waters. Despite uncontrolled growth of the industry, these self-regulatory methods show promise of being effective in sustainably managing the situation.